

(12) UK Patent Application (19) GB (11) 2 030 032 A

(21) Application No 7903382

(22) Date of filing
31 Jan 1979

(23) Claims filed
31 Jan 1979

(30) Priority data

(31) 53/118917

(32) 27 Sep 1978

(33) Japan (JP)

(43) Application published
2 Apr 1980

(51) INT CL³ A01K 91/00

(52) Domestic classification
A1A 17X1

(56) Documents cited
GB 1157878
GB 945377
GB 742422
GB 212181

(58) Field of search
A1A

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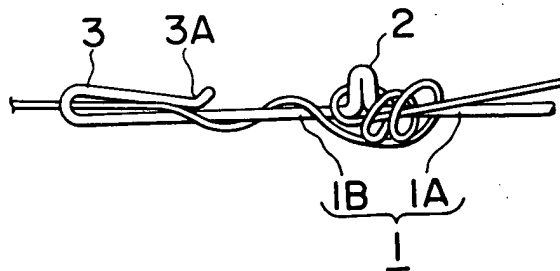
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Marks & Clerk

(54) Fishing line connecting de-
vice

(57) A device for connecting a fish-
ing line to an item of fishing tackle
e.g. a hook, a weight or lure or an-
other fishing line without knotting
the line comprises a main shank 1
having a protrusion 2 formed by
bending an intermediate portion of
the shank 1. A loop 3 is provided
at one end of the shank 1 and a
ring at the other end. A large num-
ber of alternative constructions are
disclosed.

FIG. 2(c)



The drawings originally filed were informal and the print here reproduced is taken from a later filed formal c

FIG. 1

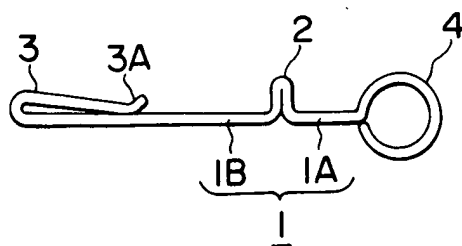


FIG. 2(a)

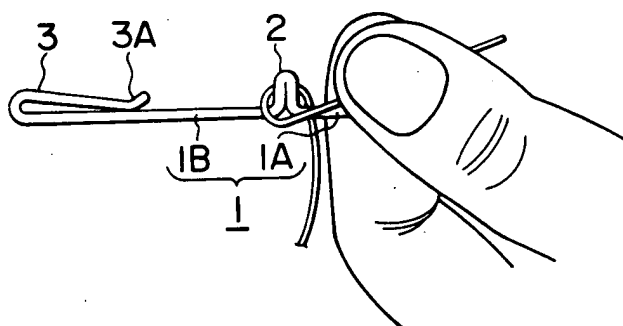


FIG. 2(b)

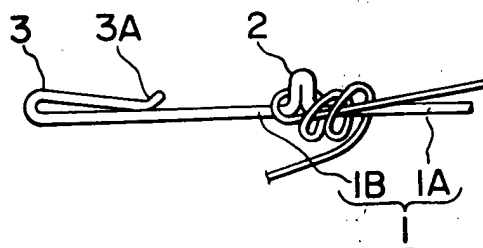


FIG. 2(c)

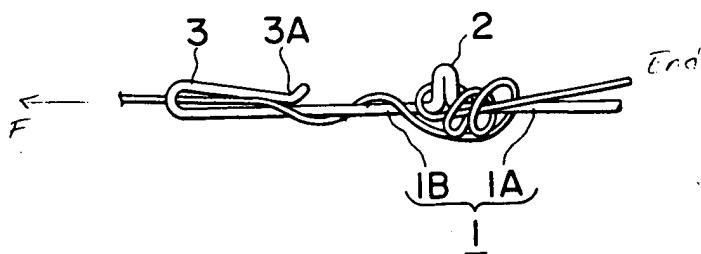


FIG. 3

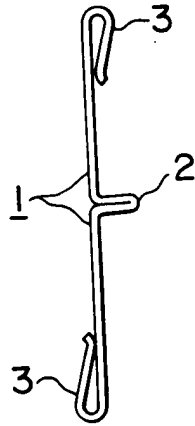


FIG. 4

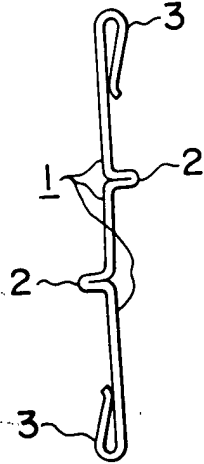


FIG. 5

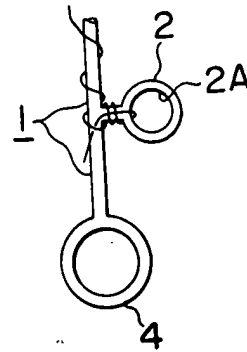


FIG. 6 FIG. 7 FIG. 8 FIG. 9

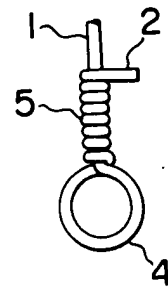
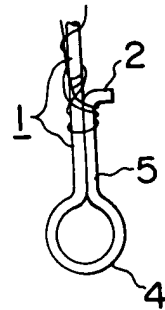
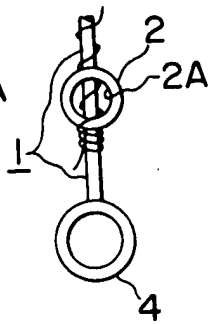
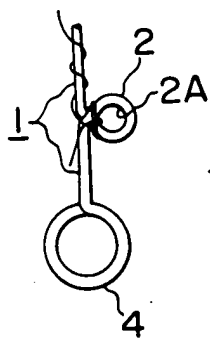


FIG. 10 FIG. 11 FIG. 12 FIG. 13

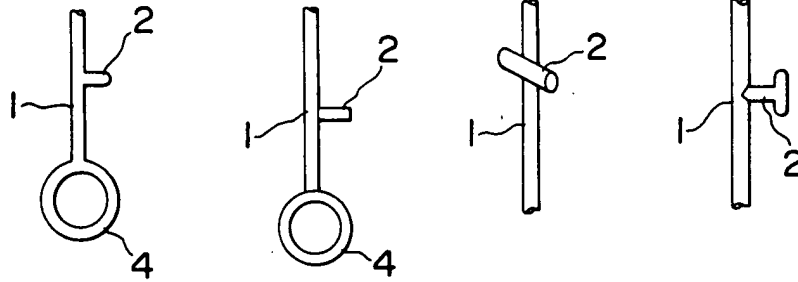


FIG. 14 FIG. 15 FIG. 16 FIG. 17

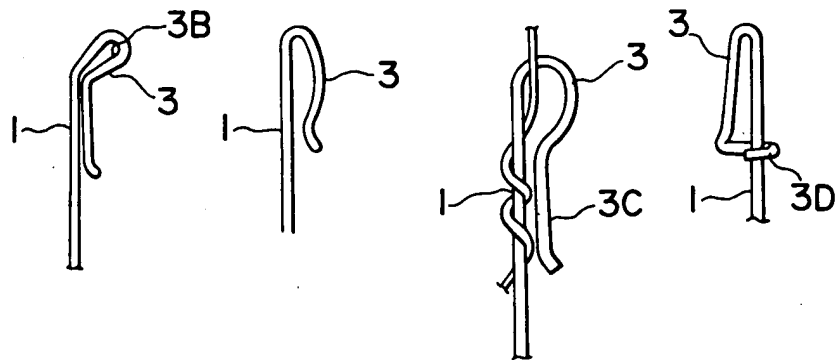


FIG. 18

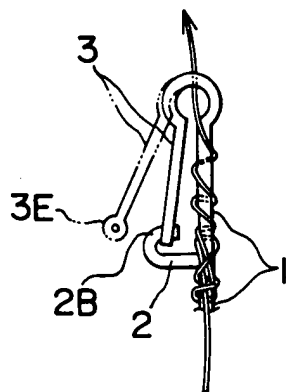


FIG. 19

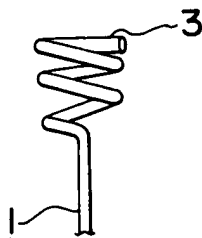


FIG. 20

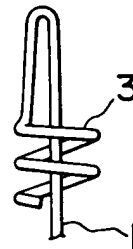


FIG. 21(a)

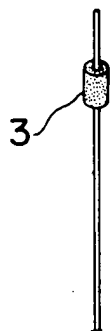


FIG. 21(b)

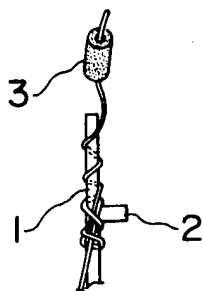


FIG. 21(c)

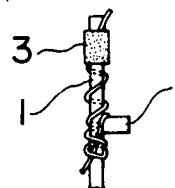


FIG. 22

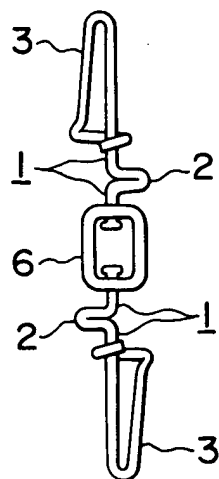


FIG. 23

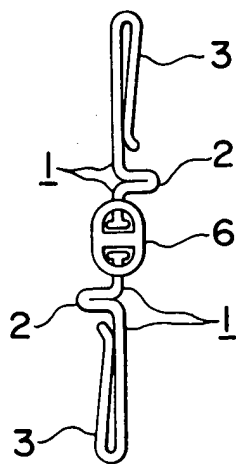


FIG. 24

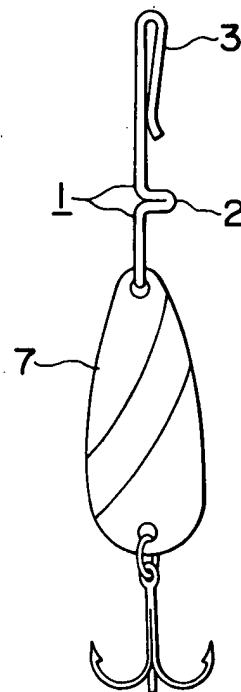


FIG. 25

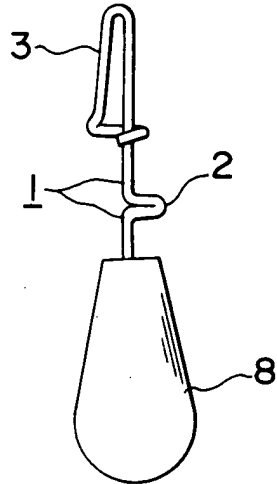


FIG. 26

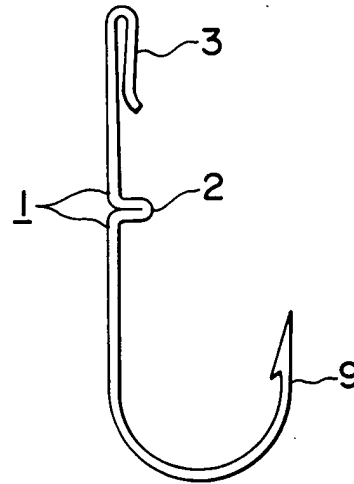
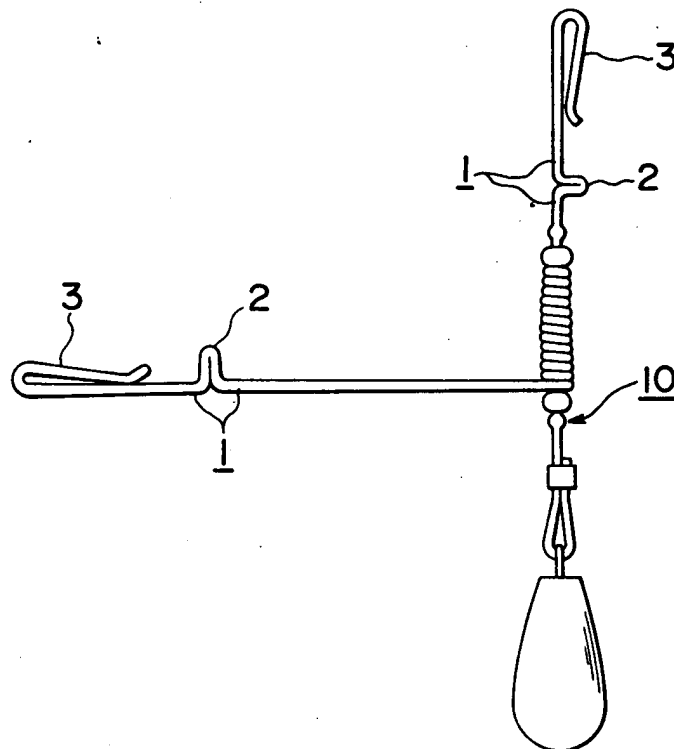


FIG. 27



SPECIFICATION

Fishing line connecting device

- 5 A conventional fishing line connecting device is in the form of a shank one end of which is provided with a protrusion or a ring. An end of the line is tied to the protrusion or the ring. The tying of the line to the protrusion or the ring is performed by tightly knotting the line itself. As is well known for fishermen, it is very troublesome and difficult to knot the line which is thin and slippery. Further, once the tight knotting is formed, it becomes very difficult to loosen the knot thus making removal of the line difficult. Therefore, in order to remove the line from the device, it is usual to cut the line by using an edge or scissors. It is also known that the line tends to be broken at the knotted portion because the strength of the line is reduced by the tying operation.
- In order to eliminate these problems, a so-called automatic line stopper has been developed. The stopper has an end portion formed by folding a wire such that the distance between the juxtaposed wire portions reduces gradually toward the bent portion of the wire. The line is inserted into the space between the wire portions from the wider space toward the bent portion so that the line is pinched by the wire portions.
- This stopper is effective only when the line is strong enough to withstand the shearing force due to the pinching effect of the wire portions, because the shearing force increases with increase of the line stopping effect, i.e., friction between the wire portions and the line pinched therebetween.
- 40 An object of the present invention is to provide a fishing line connecting device by means of which knotting of the line is unnecessary and the line can be easily connected thereto or disconnected therefrom by only winding or rewinding the line, and in which there is no local shearing stress on the line.
- According to the present invention there is provided a fishing line connecting device comprising a main shank onto which a fishing line is to be wound, a protrusion provided on an intermediate portion of the shank, and line unwinding-preventing means provided on at least one end of the shank.
- In the accompanying drawings:—
- 55 *Figure 1* is one embodiment of the fishing line connecting device according to the present invention;
- Figures 2(a) to 2(c)* illustrate how to tie a fishing line to the fishing line connecting device in *Fig. 1*;
- 60 *Figure 3* is another embodiment of fishing line connecting device according to the present invention;
- Figure 4* is a modification of the embodiment of *Fig. 3*;

Figures 5 to 13 are views showing alternative forms of protrusion provided on an intermediate portion of a main shank of a fishing line connecting device of the present invention;

Figures 14 to 20 and 21(a) to 21(c) are views showing alternative forms of line unwind preventing member provided on at least one end of the main shank of the fishing line connecting device of the present invention, respectively; and

Figures 22 to 27 are other embodiments of the device of the present invention.

Referring now to *Fig. 1*, the device is formed of bent wire and comprises a main shank 1 having an intermediate protrusion 2. The protrusion 2 protrudes from the shank at substantially right angle with respect thereto and is formed, in this embodiment, by bending the intermediate portion of the shank 1. At one end of the main shank 1, a line unwind preventing member 3 is provided which, in this embodiment, takes the form of a loop formed by folding an end portion of the shank 1. A portion 3A of the member 3 is in resilient contact with the shank 1. The end of the member 3 adjacent portion 3A is turned outwardly to form a guide for smoothly receiving the line when the latter is to be engaged in the member 3. A mounting ring 4 is formed at the other end of the shank 1. The mounting ring 4 may be used to connect any one or more of various items of fishing tackle thereto.

100 An example of the tying methods of the line to the tying device is illustrated in *Figs. 2(a) to 2(c)*.

An end of the line is temporarily held together with a portion 1A of the shank 1 between the ring 4 and the protrusion 2 and the line is turned around the protrusion 2 as shown in *Fig. 2(a)*. Thereafter, the free portion of the line is wound on the shank portion 1A and the temporarily held line portion as shown in *Fig. 2(b)* and then continuously wound on a shank portion 1B. Then the line is pushed into the member 3 past the resilient contact portion 3A (see *Fig. 2(c)*).

With this tying, the end portion of the line is fixed while the other end portion is resiliently held by the member 3, thus, the unwinding of the line is prevented. With this connecting device, the line is not bent at a sharp angle and is not subjected to a strong shearing force.

The disconnection of the line from the connecting device is performed by merely pulling the line from the member 3 and rewinding it.

The above tying method is a mere example and various tyings may be performed with this connecting device. For example, after the step shown in *Fig. 2(a)*, the line may be first wound onto the shank portion 1B firstly and then onto the shank portion 1A. Then the free end of the line may be passed through the

member 3 as shown in Fig. 2(c).

Fig. 3 shows a modification of the embodiment of Fig. 1, wherein the other end of the main shank 1 is provided with a second rewind preventing member 3 instead of the ring 4. This may be effectively used to connect two lines. In the latter case, the protrusion 2 is used commonly for the two lines.

In Fig. 4, the device is similar to that of Fig. 3, except that a pair of protrusions 2 is formed in the intermediate portion of the shank 1. Each protrusion 2 is used for a respective one of the lines to be connected to the device.

Fig. 5 to 13 show various alternative forms for the protrusion 2 of Fig. 1. Each of the forms illustrated in Figs. 5 to 7 includes a ring 2A. The one end of the line is passed through the ring 2A and fixed on the shank portion 1A. The subsequent operations for connecting the line are the same as those in Figs. 2(b) and 2(c).

The ring 2A in Fig. 5 is formed integrally with the shank 1, the ring 2A in Fig. 6 is formed by twisting the centre portion of the shank 1, and the ring 2A in Fig. 7 is formed previously and secured suitably to the shank 1.

The protrusion 2 in Fig. 8 is formed by providing an extension 5 of the shank beyond the ring 4 which lies against the shank 1 for most of its length and is bent outwardly at its end remote from the ring 4. The protrusion 2 in Fig. 9 is formed by winding the extension 5 around the shank 1.

The protrusions 2 in Figs. 10 and 11 are respectively formed integrally with and suitably secured to the shank 1.

The protrusion 2 in Fig. 12 is formed by securing a piece of rod orthogonally to the shank to form a cross shape.

The protrusion 2 in Fig. 13 is formed by securing the bottom of a T-shaped member to the shank 1.

In Fig. 14, the end portion of the member 3 in Fig. 1 is further bent slightly to form an inclined loop 3B. In this embodiment, the resilient contact portion is provided around a neck portion of the loop, i.e. at a location remote from the outwardly turned end. In Fig. 15, the member 3 takes the form of a hook.

In Fig. 16, the free end of the shank defining the member 3 includes a portion 3C which extends in parallel spaced relationship to the adjacent intermediate portion of the shank 1 to define a line abutting portion. The abutting force is not very strong so as to avoid a shearing action on the line.

The member in Fig. 17 is formed by turing the end portion of the member 3 around the shank 1 to form a hook portion 3D which is detachable from the shank 1. In this example, the line is inserted into the loop when the hook portion 3D is separated from the shank.

Fig. 18 is a modification of the loop in Fig.

17. In Fig. 18, the unwind preventing member 3 is formed by a resilient extension of the free end of the shank and a hooked end 2B of the protrusion 2. At the free end of the member 3, a through-hole 3E is provided which is engageable over the hooked end 2B of the protrusion 2. In this example, it is possible to make the protrusion 2 resilient and provide a hole at the end of the bent portion

2B. The example of unwind preventing member 3 which is shown in Fig. 19 is formed by coiling the end portion of the shank 1. In this example, it is sufficient to pass the line, after winding onto the shank, along the helical space between the turns of the coiled shank.

The unwind preventing member 3 in Fig. 20 is formed by folding the end portion of the shank 1 and then coiling it around the shank. The function of the member 3 in Fig. 20 is substantially the same as that of the member in Fig. 19.

Figs. 21(a) to 21(c) show another example of the unwind preventing member 3 which takes the form of a resilient tube of, e.g. rubber or synthetic resin. In this example, the line is previously passed through the rubber tube 3 as shown in Fig. 21(a) and then the line is fixed and wound on the shaft 1 as shown in Fig. 21(b). Then the tube 3 is fitted on the end of the shaft 1 as shown in Fig. 21(c).

In Fig. 22, a pair of the connecting devices substantially as shown in Fig. 17 are connected to each other by a ring 6 which is rotatable relative to the devices. This embodiment may be used as a twist prevention device.

Fig. 23 is another embodiment which is similar to that shown in Fig. 22 except that it is composed of a pair of the connecting devices each being substantially as shown in Fig. 1.

Figs. 24 to 27 are embodiments in each of which the connecting device is combined with an item of fishing tackle. In Fig. 24, the device of Fig. 1 is combined with a spoon 7. In Fig. 25, the device of Fig. 17 is combined with a weight 8. In Fig. 26, the device of Fig. 15 is combined with a hook 9 and, in Fig. 27, a pair of the tying devices of Fig. 1 are combined with a weight and branch assembly 10.

As described hereinbefore, with the connecting device according to the present invention, the fishing line can be easily secured thereto and removed therefrom. Since no knot is required to secure the line, there is no need to cut the line when the line is to be disconnected, resulting in no loss of line and no need for tools such as a knife or scissors. Further, since no knotted portion and/or pinched portion of the line is provided, there is no local shearing force to be exerted on the line.

CLAIMS

1. A fishing line connecting device comprising a shank for winding the fishing line therearound, a protrusion formed in an intermediate portion of said shank and line unwinding-preventing means formed at least one end of said shank.
2. A device as claimed in claim 1, wherein said protrusion is formed by a bend in said intermediate portion of said shank.
3. A device as claimed in claim 1 or 2, wherein said protrusion is formed with a through-hole for receiving the line.
4. A device as claimed in claim 2 or 3, wherein said protrusion is formed by bending said intermediate portion of said shank to form a loop.
5. A device as claimed in claim 1, wherein said protrusion is formed by folding an extension of the other end of said shank so that the end of said extension extends to said intermediate portion of said shank and bending the end portion of said extension to project outwardly of said shank.
6. A device as claimed in claim 5, wherein said extension is wound around said shank.
7. A device as claimed in claim 1 or 3, wherein said protrusion is a member fixedly secured to said shank.
8. A device as claimed in claim 1 or 3, wherein said protrusion is formed integrally with said shank.
9. A device as claimed in any preceding claim, wherein said unwind preventing means is a resilient loop formed by folding an extension of said shank.
10. A device as claimed in claim 9, wherein an end portion of said loop is in resilient contact with said shank.
11. A device as claimed in claim 9, wherein the end portion of said pin takes in the form of a hook detachably engaged with said shank.
12. A device as claimed in any one of claims 1 to 8, wherein said unwind preventing means is in the form of a coil formed by coiling an extension of said shank.
13. A device as claimed in claim 12, wherein said coil is formed around said shank.
14. A device as claimed in any one of claims 1 to 8, wherein said unwind preventing means is a resilient tube detachably fitted, in use, on said shank.
15. A device as claimed in claim 9, wherein the end of said resilient loop is formed with a hole and said protrusion is provided with a hook having an end detachably engaged with said hole.
16. A device as claimed in any one of claims 1 to 15, wherein said shank is provided at the other end thereof with a ring.
17. A device as claimed in any one of claims 1 to 15, wherein the other end of said shank is connected with an item of fishing tackle.
18. A device as claimed in claim 17, wherein said item is a fishing hook.
19. A device as claimed in claim 17, wherein said item is a weight.
20. A device as claimed in claim 17, wherein said item is a lure.
21. A device claimed in claim 17, wherein said item is a second fishing line connecting device connected with the other end of said shank, said second fishing line tying device comprising a shank for winding the fishing line therearound, a protrusion formed in an intermediate portion of said shank and a line unwinding-preventing means formed at least one end of said shank.
22. A fishing line connecting device substantially as hereinbefore described in any of Figs. 1 to 27 of the accompanying drawings.

85

Printed for Her Majesty's Stationery Office
by Burgess & Son (Abingdon) Ltd.—1980.
Published at The Patent Office, 25 Southampton Buildings,
London, WC2A 1AY, from which copies may be obtained.